## (19) World Intellectual Property Organization

International Bureau



## 

#### (43) International Publication Date 21 July 2005 (21.07.2005)

#### PCT

### (10) International Publication Number WO 2005/066902 A1

(51) International Patent Classification7: B07C 5/342

G07D 7/12,

(21) International Application Number:

PCT/AU2005/000016

- (22) International Filing Date: 10 January 2005 (10.01.2005)
- (25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 2004900118

9 January 2004 (09.01.2004) AU

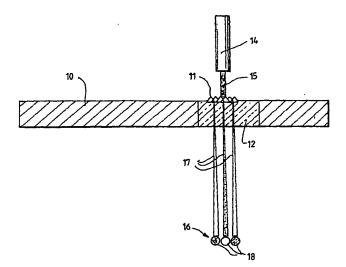
- (71) Applicant (for all designated States except US): SE-CURENCY PTY LIMITED [AU/AU]; Hume Highway, Craigieburn, VIC 3084 (AU).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): POWER, Gary Fairless [GB/AU]; 46 Drummond Street, Greenvale Victoria 3059 (AU). SWIFT, Patrick [IE/AU]; 68 Dunsford Street, Lancefield Victoria 3435 (AU). CHUA, James Hock Hai [AU/AU]; 39 Sugarloaf Crescent, Castlecrag

NSW 2068 (AU). NARDELLA, Anthony [AU/AU]; 24 Whiteley Parade, Taylors Lakes Victoria 3038 (AU). HENSON, Paul [AU/AU]; 26 Dewvale Place, Craigieburn Victoria 3064 (AU).

- (74) Agent: WATERMARK PATENT & TRADEMARK ATTORNEYS; 290 Burwood Road, Hawthorn, Victoria 3122 (AU).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN. CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,

[Continued on next page]

(54) Title: METHOD AND APPARATUS FOR INSPECTION OF SECURITY ARTICLES



(57) Abstract: A method and apparatus for inspection of a security article (10) is provides in which a substantially collimated light beam (15) from a point light source (14) is directed onto a diffractive optical projection element (DOE) (11). The light beam is transformed by the DOE (11) into a patterned beam (17) which is reconstructed to form a projected image at a particular position in space remote from the surface of the security article (10). An optical detection device (16) is located at which the patterned beam (17) is reconstructed to detect the projected image. The inspection method and apparatus may be used in equipment for handling, sorting, counting or otherwise processing security articles, in particular security documents such as banknotes. The apparatus may include a processor for generating a signal when the absence or poor quality of a DOE is detected and which is used to isolate or mark the security article.



# WO 2005/066902 A1



FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

#### Published:

with international search report

PER AVAILABLE COPY